



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/819,172

03/27/2001

Tidhar D. Shalon

IN-0012-3

3877

23379

7590

01/20/2004

RICHARD ARON OSMAN
SCIENCE AND TECHNOLOGY LAW GROUP
75 DENISE DRIVE
HILLSBOROUGH, CA 94010

EXAMINER

LUDLOW, JAN M

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,172

Applicant(s)

SHALON ET AL

Examiner

Jan M. Ludlow

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 01122004
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

1. Claims 1-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. In claim 1, next to last line, it is unclear whether "a positioner" is the same positioner as recited in the preamble and line 4, or in addition to the previously recited positioner.
3. Claims 1-25, 28-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin. (5,957,167)
4. Feygin teaches a method and apparatus for printing biological substances on a substrate. A capillary tube with a slit in it (slit not precluded by the instant claims) can be decelerated to print a droplet (col. 3, line 23). A spring biasing device is shown in Figure 7. Plural dispensing members and automated operation are taught (col. 5, lines 55-65). With respect to reservoirs, the upper, expanded end of the capillary is a reservoir; alternatively, the source well into which the capillary device is dipped for loading is a non-capillary reservoir in fluid contact with the capillary during loading.
5. Feygin fails to explicitly teach a positioner for moving the printer relative to the substrate.
6. It would have been obvious to provide positioners and other known moving expedients in order to automate the system as taught by Feygin. With respect to "wire bonding capillary" in that applicant has disclosed no special properties of wire bonding capillaries defining over ordinary capillaries, it is the examiner's position that the capillaries of Feygin are structurally capable of use as wire bonding capillaries and/or

constitute wire bonding capillaries to the extent the term is definite. Element 718 constitutes the instant nozzle surface. It would have been obvious to make the gang of devices of a single material for reproducibility of delivery, and of known materials for their known strength and inertness. It would have been obvious to space the devices for insertion into known well plates. It would have been obvious to make the heads replaceable in order to remove damaged or contaminated heads as was known in the printer and pipetting art.

7. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feygin as applied to claims 1-25, 28-39 above and further in view of Thomas.

8. Feygin fails to teach the preservative.

9. Thomas teaches a reagent transfer device having a resilient rubber pad which is abutted with the transfer device outlet opening to prevent evaporation from the device during storage (col. 3, lines 59-64).

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an evaporation prevention device such as a rubber pad for abutting the capillary openings in the device of Feygin in order to prevent evaporation of reagents from the openings during storage as taught by Thomas.

11. Applicant's arguments filed November 4, 2003 have been fully considered but they are not persuasive.

12. The rejection under 35 USC 112, first paragraph is overcome by virtue of the amendment to claim 1. Claim 1 no longer requires that both ends of the capillary be open to atmosphere.

13. Applicant argues that Feygin does not teach printing from a surface of fixed, integrated nozzles, but, e.g., Figure 7 of Feygin shows nozzles 300a-c fixed to plate 718 with decelerating positioner 714a-b.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

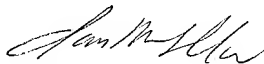
15. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

Art Unit: 1743

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jan M. Ludlow
Primary Examiner
Art Unit 1743

Jml
January 12, 2004